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File: USPT

Jun 11, 1991

US-PAT-NO: 5023386

DOCUMENT-IDENTIFIER: US 5023386 A

TITLE: Production of hexanitrostilbene (HNS)

DATE-ISSUED: June 11, 1991

INVENTOR-INFORMATION:

| NAME | CITY | STATE | ZIP CODE | COUNTRY |
|-----------------------------|---------------|-------|----------|---------|
| Golding; Peter | Kings Langley | | | GB |
| Jayaweera-Bandara; Asoka M. | Long Ditton | | | GB |
| Duffin; Henry | Surbiton | | | GB |

ASSIGNEE-INFORMATION:

| NAME | CITY | STATE | ZIP CODE | COUNTRY | TYPE | CODE |
|---|--------|-------|----------|---------|------|------|
| The Secretary of State for Defence in her Britannic Majesty's Government | London | | | GB | | 07 |

APPL-NO: 07/ 457681 [PALM]

DATE FILED: January 4, 1990

FOREIGN-APPL-PRIORITY-DATA:

| COUNTRY | APPL-NO | APPL-DATE |
|---------|---------|--------------|
| GB | 8712834 | June 1, 1987 |

PCT-DATA:

| APPL-NO | DATE-FILED | PUB-NO | PUB-DATE | 371-DATE | 102(E)-DATE |
|----------------|--------------|------------|--------------|-------------|-------------|
| PCT/GB88/00420 | May 26, 1988 | WO88/09784 | Dec 15, 1988 | Jan 4, 1990 | Jan 4, 1990 |

INT-CL: [05] C07C 205/06

US-CL-ISSUED: 568/931; 568/928

US-CL-CURRENT: 568/931; 568/928

FIELD-OF-SEARCH: 568/931, 568/928

PRIOR-ART-DISCLOSED:

U.S. PATENT DOCUMENTS

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| | PAT-NO | ISSUE-DATE | PATENTEE-NAME | US-CL |
|--------------------------|----------------|---------------|---------------|---------|
| <input type="checkbox"/> | <u>3505413</u> | April 1970 | Shipp | 568/931 |
| <input type="checkbox"/> | <u>4243614</u> | January 1981 | Gilbert | 568/931 |
| <input type="checkbox"/> | <u>4270012</u> | May 1981 | Gilbert | 568/931 |
| <input type="checkbox"/> | <u>4626606</u> | December 1986 | Duffin et al. | 568/931 |

FOREIGN PATENT DOCUMENTS

| FOREIGN-PAT-NO | PUBN-DATE | COUNTRY | US-CL |
|----------------|---------------|---------|-------|
| 0132990 | February 1985 | EP | |

OTHER PUBLICATIONS

Chemical Abstracts, vol. 84, No. 9, Mar. 1, 1976, Abstract No. 58886n.
Chemical Abstracts, vol. 92, No. 18, May 5, 1980, Abstract No. 149476s.

ART-UNIT: 223

PRIMARY-EXAMINER: Stoll; Robert L.

ASSISTANT-EXAMINER: Sweet; Greg M.

ATTY-AGENT-FIRM: Nixon & Vanderhye

ABSTRACT:

A relatively fast process for producing HNS from trinitrotoluene (TNT) in high yield consists of oxidizing TNT with an oxidizing transition metal compound within a polar aprotic solvent having a weak base, such as an alkali metal carboxylate, dissolved therein. The amount of transition metal compound used is typically at least one mole per mole of TNT. An especially preferred transition metal compound for use in the present process is cupric chloride.

16 Claims, 0 Drawing figures

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